Ministry of **Forests, Lands and Natural Resource Operations**

Ambient Groundwater Monitoring

Hullcar Aquifers No. 102 and 103

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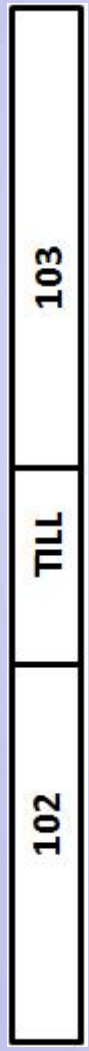
Hullcar Community Hall
March 21, 2016

Outline

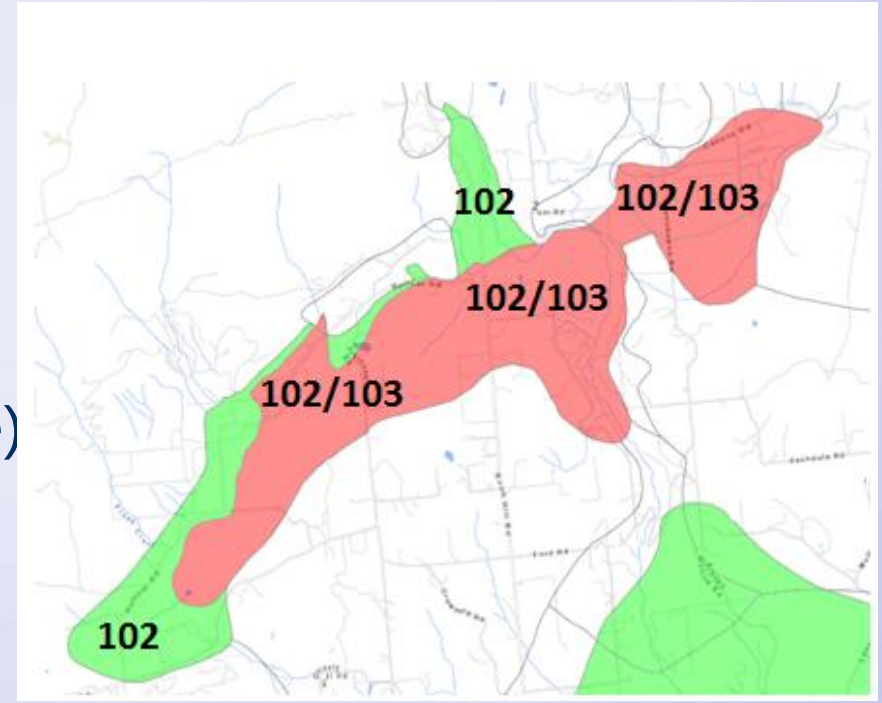
- Overview of the surficial geology of the Hullcar area and aquifer information;
- Description of the Hullcar Ambient GW Monitoring Network (AGWQMN);
- Summary of the recent nitrate data from the Hullcar AGWQMN.

Photo by M. Lepitre

Aquifers 102 and 103



- Aquifer 103
  - Productive Sand and Gravel
  - Unconfined
  - Aquifer is not protected from surface activities
- Till layer separates 103 (above) from 102 (below)
- Aquifer 102
  - Productive Sand and Gravel
  - Confined
  - Layer of till or clay above aquifer
    - More protection from surface



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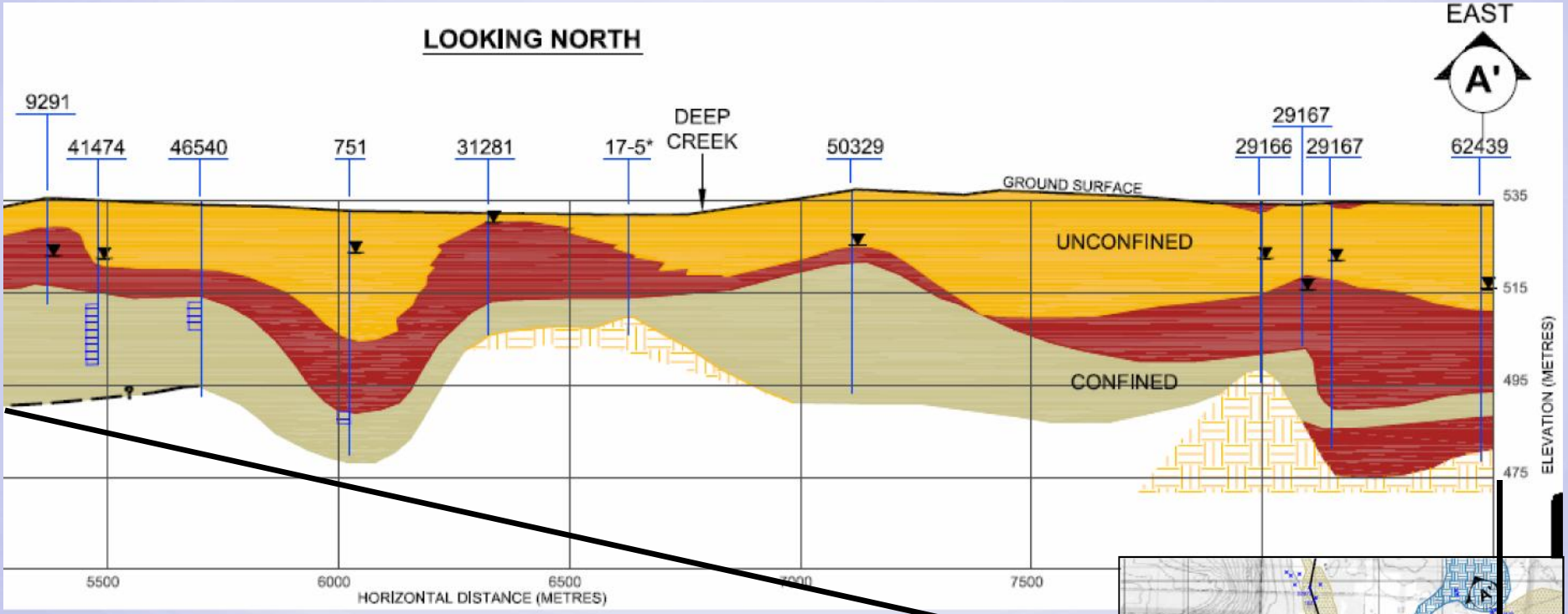
Generalized Cross Section



From Golder, 2006

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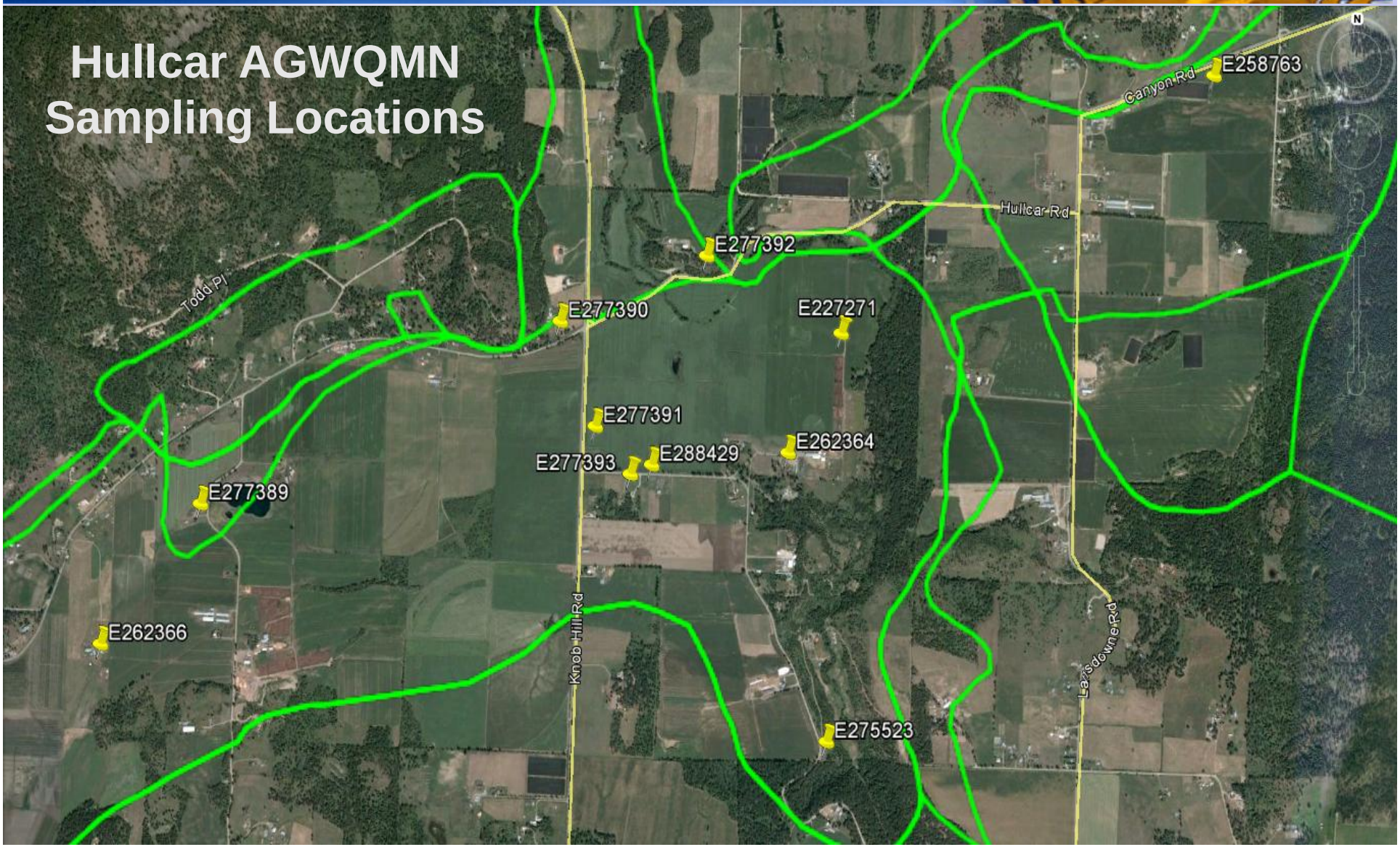
Hullcar AGWQMN Sampling Locations



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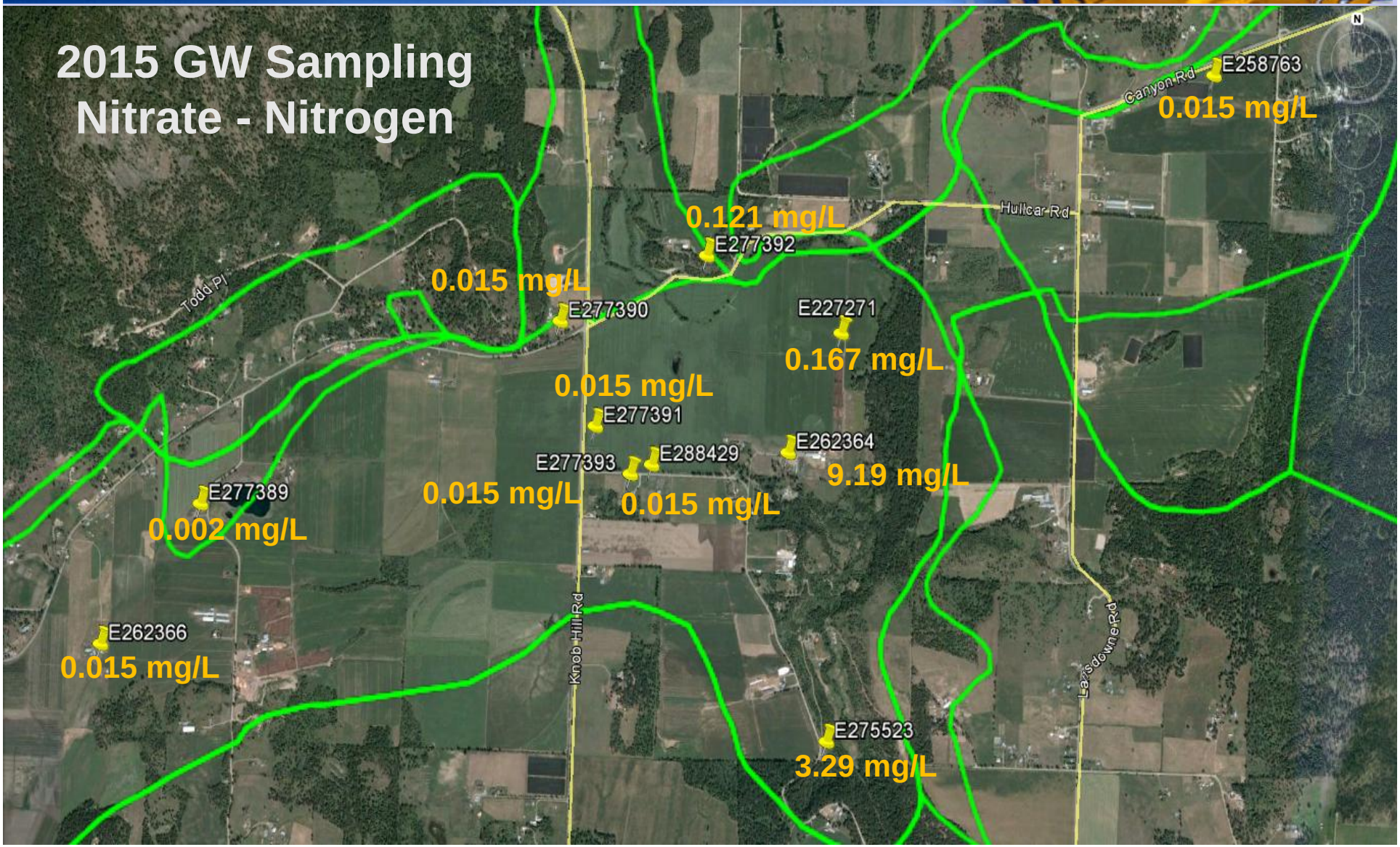

Discussion

- Recent Results
  - Most wells at or close to lab detection limit
  - Two locations considered elevated (>3 mg/L showing influence of human activities on the aquifer)
  - None have exceeded 10 mg/L MAC (Health Canada)
- Potential Sources of Nitrates
  - Application of liquid manure
  - Application of fertilizers
  - Septic fields
- Well records do not exist for all wells in the network
- Wells installed in the confined aquifer would be more protected from surface water infiltration